

TORREYA

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SOME PTELEA SEGREGATES

BY EDWARD L. GREENE

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BOTANICAL
GARDENS

Ptelea Carolina sp. nov.

Shrub probably large, apparently glabrous or very nearly so in all its parts; red-brown twigs of the season slightly rugose; leaves large, on stout petioles 3 to 5 inches long; odd leaflet commonly 5 inches long and nearly 3 in breadth, of somewhat rhombic-ovate outline, cuneate at base, cuspidately pointed at apex but the cusp not acute, usually blunt and commonly even emarginate, the whole margin faintly crenate, upper face deep green, lower glaucous, lateral leaflets nearly one-third smaller, not strongly inequilateral: samaras small for the plant, hardly more than one-half inch in diameter, nearly orbicular, retuse at both ends, the body nearly central, round-oval, distinctly rugose, moderately punctate between the ridges; reticulation of wing not at all pronounced.

Mountains of North Carolina, along the French Broad River, in Madison Co., 2 August, 1880, *John Donnell Smith*; the copious type specimens all in his private herbarium. Readily distinguished from the common Virginian and northern *P. trifoliata* by the absence of all pubescence, and the small samaras, these being of only about one-third the dimensions and much less reticulate as to the narrow wing.

Ptelea obcordata sp. nov.

Shrub 10 feet high or more; twigs with red-brown bark finely rugulose and glabrous, as are all the parts of the shrub; leaves of a vivid green on both faces, scarcely paler beneath; odd leaflet 2 to 3.5 inches long, somewhat elliptic-lanceolate, merely acute, not taper-pointed, the margin faintly crenate, the lateral pair about one-third smaller, very inequilateral: samaras very large, some quite an inch long, round-obcordate, abruptly acute at base, the summit with a short sinus between the rounded

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lobes, the body of the samara plainly transverse-rugose and strongly and densely glandular-punctate between the ridges.

Vicinity of Eustis, Florida, June, 1894, *George V. Nash*, according to specimen in U. S. Herbarium. Unlike *P. trifoliata* by its narrow foliage glabrous even when young, and of the same hue on both faces. The samaras also have their marks as unlike those of the northern shrub.

***Ptelea mesochora* sp. nov.**

Foliage of less than half the size of that of *P. trifoliata*, commonly about one-third as large, glabrous or nearly so, very pale and glaucous beneath; odd leaflet 2 or 3 inches long, rhombic-ovate, merely acute, not acuminate or even cuspidate, the laterals rather more than half as large, more or less inequilateral: samaras of the largest, commonly 1 inch long, round-obovate or even slightly obcordate, truncate or subcordate at base, the very broad wing apt to be full and wavy, strongly reticulate, the body oval, small in proportion, excentric, nearer the summit than the base, distinctly rugose, the intervals rather closely punctate.

Of the region of the upper Mississippi valley and vicinity of Lake Michigan; the best specimens by *Umbach*, from Miller's, Indiana, 30 July, 1897; Canton, Ill., 1875, *J. Wolfe*; Oquawka, Ill., *Patterson*, 1874. Distinct from *P. trifoliata* by its much smaller foliage and even larger fruits.

CYTOLOGICAL DIFFERENCES BETWEEN THE PAL-
MELLA AND FILAMENTOUS FORMS
OF STIGEOCLONEUM

BY NAOHIDÉ YATSU

It has long been known that *Stigoclonium* takes two different forms according to environmental conditions. In dry atmosphere the alga is spherical and is known as the palmella form, while in a wet place it becomes filamentous. Four years ago, Dr. B. E. Livingston* succeeded in changing one form into the other simply by transferring the alga from one culture solution to another of different strength. At the suggestion of Dr. Mac-

* Livingston, B. E. On the stimulus which causes the change of form in poly-morphic green algae. *Bot. Gaz.* 30: 289-361. 1900.